

LESSON 3C—NARRATIVE: WHAT TECHNOLOGY DID ANCIENT PEOPLE USE TO HARVEST AND PROCESS PLANTS?

Ancient people used stone, bone, wood, and antler tools to harvest and process plants.

Archaeologists focus on stone and bone artifacts because these are the most common artifacts found at sites. But they sometimes find plants and seeds preserved at prehistoric sites in Montana. These discoveries demonstrate the importance of plant resources to prehistoric peoples. Most seeds and plant remains are found in ancient campfires. They are often charred and hard to identify.

Plants were always a significant food source for Montana's ancient people. Archaeologists find the most evidence of plant food use between 8,000 and 1,500 years ago. Ancient people used plants medicinally to heal wounds and cure sick people. Many modern medicines are made from plants that prehistoric peoples used. Ancient people used rope and twine made from plant fibers for lashing equipment together, tying tipi poles, and as bow string. And they also used plants in ceremonies of all types.

Many types of plants grow across Montana. Some plants were more important to ancient people than others. Knowledge of important plants, and where they could be found, was passed from generation to generation. Women and girls harvested seeds, berries, and roots throughout spring, summer, and fall. This provided important winter food to supplement meat.

Roots, such as **bitterroot** (Montana's

state flower) and **camas**, were dug with a **digging stick**. The digging stick was three to four feet long and made of antler or wood. The digging end was pushed into the ground to move the root up to the surface. It worked like a modern-day dandelion digger. The end of a wooden digging stick was hardened in a campfire. This made the digging end durable and kept it from breaking. The handles of digging sticks were made of deer or elk antler. Styles of digging sticks varied among Montana Indian tribes. Blackfoot Indians used the wood of birch trees for their digging sticks. Other western Montana tribes used hawthorn and serviceberry branches for digging. Digging sticks are rarely found in prehistoric sites. These tools were highly valued and were only left behind when they were broken and could not be repaired.

Ancient people cut branches for digging sticks and poles for structures with **stone knives** and **axes**. They probably used stone flakes and knives to harvest plants like **balsamroot** and **prickly pear cactus** which grow above the ground.

Prehistoric people placed roots and berries on a large, flat grinding stone, called a **metate**. They then mashed the roots and berries with a hand-sized flat rock called a **mano**. This produced juice and pulp. They then dried the pulp into a flour and stored it in skin containers. (They also sometimes used a mortar and pestle to process plant foods.) They



For the ancient people of western Montana, camas was an important food source. They harvested the edible roots of the camas with a digging stick. *Courtesy Kootenai National Forest.*

dried roots and berries whole and stored them in bags. And they sometimes ground dried plants for use as flour. People used this flour in stews or made it into cakes or bread. By mixing together mashed berries, dried meat, and fat, they made **pemmican**. Pemmican provided an important and nutritious food during winter when plants were not available and wild game was not plentiful.

Archaeologists have found plant seeds in prehistoric sites throughout Montana. One of the best finds was in the Barton Gulch site in southwestern Montana.



This woman uses a stone mortar and pestle to grind up roots, berries, and nuts. Some ancient people preferred to use manos and metates. *Courtesy Kootenai National Forest.*

LESSON 3C—VOCABULARY: WHAT TECHNOLOGY DID ANCIENT PEOPLE USE TO HARVEST AND PROCESS PLANTS?

balsamroot _____

bitterroot _____

camas _____

digging sticks _____

mano _____

metate _____

pemmican _____

prickly pear cactus _____

stone axes _____

stone knives _____

LESSON 3C—ARCH ACTIVITY: MAKING PEMMICAN

Grades: 3–8

Time: half-day (1 hr. to soak; 30 min. to prepare; 2 hrs. to bake)

Content Area: science, social studies, and math

Who: small groups

Materials for pemmican:

12 ounces of thin-strip beef jerky, 2 cups of fresh or frozen blueberries (or raisins), 2 cups of sunflower seed meats, 1/4 cup of soft margarine.

Large mixing bowl and large flat rock that has been *sterilized* to serve as grinding board (metate) and smaller, *sterilized* rock to serve as a masher (mano), 1–2 cookie sheets for drying or baking.

OBJECTIVE AND OUTCOME

- Students will learn about the process by which pemmican was made and the ancient technology used to create it.
- Students will make a native food using *sterilized* grinding stones and mixing it by hand. They will then sample the food they have created.

ACTIVITY

1. Soak the jerky in 1 cup of water for 1 hour.
2. Assign students to groups of three to five. *Have them wash their hands before they begin.* Groups take turns mashing the jerky on the grinding stone. Place ground jerky in bowl. Once jerky is ground, begin to add berries to a bit of the jerky and mash together on the grinding stone. Continue this process until all the jerky and berries are mixed together. Then add sunflower seed meats.
3. Put jerky/berry/sunflower mixture in bowl. Add margarine and mix all together thoroughly. Knead the mixture. It should be the consistency

of trail mix.

4. Place mixture on cookie sheets. Spread flat. Bake at 200 degrees for 2 hours.

5. Eat and enjoy.

NOTE: If you don't have a grinding stone and a stone masher, you can chop the jerky with a knife and put the jerky, blueberries, sunflower seed meats, and margarine in a bowl and mix well.

EXTENSIONS

3–8:

- Research vocabulary.

See: Lesson 3C—Vocabulary.

- Research other native recipes and foods introduced by American Indians.

- Discuss with the class what these contributions are.

- Find other American Indian recipes such as those for fry bread or wild rice soup. Make and sample these traditional foods.

- Put together a cookbook with 5–15 ancient recipes using traditional foods.